

## DRAWINGS ATTACHED

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## (54) TACKY FLOOR-MATS WITH IMPROVED SHEET SEPARATING MEANS

(71) I, JOHN JOSEPH NAPPI, a citizen of the United States of America, of 80 Beckley Road, Berlin, Connecticut, United States of America, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to tacky floor-mats of the type employing a stack of pressure sensitive adhesive coated sheets such as disclosed in my prior United States patent No. 3,083,393 and my United Kingdom patent Specification No. 1,138,103.

In prior art tacky floor-mats of the pressure sensitive type the conventional practice has been to provide a tab of release paper material between adjacent sheets at or near the corner of the stack to permit an initial finger hold to be obtained for peeling the used sheets from the top of the stack. By the nature of pressure sensitive adhesives the stack of sheets becomes increasingly more tightly bonded as the pedestrian traffic passes thereover due to the high unit pressure with which the feet of the users compress the sheets and the time duration in which the sheets are held in adhesive contact. Thus it has been found that it is extremely difficult at times to separate a single sheet from the top of the stack, since when only one corner of the stack is freed by the release paper interleaf, it is possible to grip mistakenly two or more sheets and thus considerable waste is involved. It is also inconvenient to peel tightly bonded sheets when only a corner is freed by the release agent, since until a complete side has been freed from adhesive bond, the matter of gripping and starting a progressive peeling action presents some considerable difficulty to the maintenance personnel who are required to change the soiled top sheets.

According to the present invention there is provided a tacky floor-mat for adhesively cleaning the soles of shoes or the like as users move over the exposed top surface of

the mat, comprising a stack of pliable peelable pressure sensitive adhesive coated sheets stacked adhesive side up to provide a tread surface; each of which sheets, except for the top sheet in said stack, is adhered to the undersurface of the next higher sheet in said stack and exposed for use in succession as the sheets are peeled from the top of said stack; a strand between two adjacent adhered sheets of said stack and protruding from one edge of said stack, said strand separating the adhesive bond between said adjacent adhered sheets when said strand is pulled; and means for retaining the bottom surface of said stack on a supporting surface against the upward pull of a shoe or the like adhered to the top sheet.

Thus, in accordance with the present invention, the peeling of adhesively bonded sheets is rendered relatively simple and at the same time assurance is provided that only a single sheet will be released for peeling thereby preventing the costly practice of disposing of two or more adhered sheets when only the top soiled sheet is intended to be discarded. At the same time the peeling operation is simplified since the present invention in a preferred form permits the releasing of a substantial edge portion of the soiled top sheet.

Specific embodiments of the invention will now be described by way of example with reference to the accompanying drawings, wherein:

Fig. 1 is a perspective view of a tacky floor-mat as employed in a conventional tacky floor-mat frame in accordance with my first-mentioned prior patent, and embodying the present invention.

Fig. 2 is a perspective view of an insert corresponding to said prior patent and showing the action of the release means in separating the end of the top sheet in the stack in accordance with the present invention.

Fig. 3 is a fragmentary view in section showing details of the construction of the insert of Fig. 2.

Fig. 4 is a perspective view of a double-sided mat corresponding to that disclosed in the second aforementioned patent with the present invention applied thereto.

5 Fig. 5 is an end view of Fig. 4.

Fig. 6 is a view similar to Fig. 5, but showing the release of the entire remaining pad and bottom stack of sheets.

10 Fig. 7 is a partial view showing a pull tab.

Fig. 8 is a partial view showing an improved pull tab.

Referring to Fig. 1, a tacky floor-mat and frame installation is shown in which a frame 11 having bevelled edges is provided to receive an insert tacky floor-mat 12 consisting of a plurality of pressure sensitive adhesive coated sheets. The mat 12 can be placed directly in the frame or can be mounted on a "Masonite" (registered Trade Mark) board insert in accordance with conventional practice. As indicated in Fig. 1, a strand 13 runs under each sheet substantially the full width thereof and projects from one edge of the stack. The projecting end is folded over onto the top surface of the stack 12 and adhesively retained thereon. The next lower sheet in the stack similarly has a strand 13' which projects therefrom and is folded over to underlie the top sheet in the stack 12 shown in Fig. 1. In this manner each sheet in the stack is provided with a strand such as 13 or 13' which extends substantially the full width dimension of the stack as shown. Any suitable gripping means can be provided at the end of the strands 13 and 13' such as a loop 15.

The strands 13, 13' and the similar strands 40 between the remaining adjacent adhered sheets in the stack 12 are preferably of extremely thin material so as not to unduly add to the bulk of the stack and particularly so as not to show the general outline of their location as the top sheet becomes soiled. For this purpose any kind of strong string, wire or monofilament nylon line may be used as well as various forms of thin ribbon and other materials. All that is required is that the size of the strand 13 and 14 be of small diameter and have adequate strength for the required task hereinafter described. Materials which release lint or other fibers should be avoided in view of the general application of tacky floor-mats in clean room areas and the surface character of the strands should be such that it will readily peel from the pressure sensitive adhesive used on the sheets in the stack 12 but will not tend to pull out axially so as to prevent the breaking of the bond between adjacent sheets.

Referring now to Fig. 2, the stack 12 is shown on an insert base 16 to form a unit. The base 16 may be inserted in a frame 11 or 65 used as the floor base for supporting the stack

12. If used without a frame the insert base 16 should have suitable provision for holding it on the floor whenever the unit does not have sufficient weight to be self-retaining on the floor level when in use. Whenever it is desired to change the top sheet in the stack the maintenance personnel or other operator grips the loop 15 or other gripping means at the end of strand 13 and pulls the strand out from the edge 17 of the top sheet. By pulling the strand 13 outward from the edge 17 the strand 13 has a sweeping motion from its anchored portion between the adhered sheets to the free portion which has passed out from between the adhered sheets. By virtue of the sweeping motion the adhesive bond between the sheets adjacent the strand 13 is broken and by the time the loop 15 has been pulled to completely free the strand 13 the entire edge 17 of the top sheet has been released. It is then a simple matter to grip the released edge 17 and peel the top sheet from the stack 12.

Referring to Fig. 3, it will be seen that strands 13, 13' and 13'' are provided between each pair of adhered sheets in the stack 12. While only four sheets have been shown in the stack 12 of Fig. 3, it will be understood that any number of sheets can be used and that a strand 13 will be placed between each pair of adhered sheets in the stack. Fig. 3 also shows details of the loops 15 which may be formed by folding back the strand upon itself and, if desired, knotting it as at 121.

Referring now to Fig. 4, a modification of the invention is shown in which a top stack 21 of pressure sensitive sheets with adhesive side up is secured to a foam pad 22 which has on the bottom thereof a bottom stack 23 of pressure sensitive adhesive sheets adhesive side down. This construction corresponds to that described with reference to Fig. 3 of the Nappi et al second referenced patent Specification No. 1,138,103. In each case the stacks 21 and 23 are adhered to the foam pad 22 and the device is adapted for use either as an insert in a frame or for direct application to the floor with the entire unit being inverted as soon as the top stack 21 is exhausted except for the bottom sheet 24 in the top stack 21. As described with reference to Fig. 1, the individual sheets of the stacks 21 and 23 are provided with strands 13 and pulling loops 15 to permit release and peeling of the individual sheets in the stacks.

Above the bottom sheet 24 in the top stack 21, however, a strand 25 is provided which has an extension 26 which passes around the edge of the pad 22 and the stack 23 and underlies the bottom surface of the stack 23. As shown in Fig. 5, the strand 13 is capable of peeling the top sheet 20 in stack 21 as previously described. As further shown in Fig. 6, by virtue of the connecting extension 130

- the top surface of said pad to the undersurface of the bottom sheet in said stack with the adhesive surfaces of said sheets facing upward; a second stack of sheets secured to the bottom surface of said pad with the adhesive surfaces of said sheets in said second stack facing downward; and a strand extending under the bottom sheet of said second stack and protruding from one edge of said second stack to fold over the edges of said second stack and said pad and across the top surface of the bottom sheet of the top stack adhered to the top surface of said pad; thereby providing for releasing the sheet in said top stack adhered to said bottom sheet in said top stack and by continued pull to release

the adhesive bond of the bottom sheet of said bottom stack from a supporting surface to permit inversion of the remainder of said tacky floor-mat.

10. A tacky floor-mat substantially as hereinbefore described with reference to and as illustrated in Figures 1 to 3, or Figures 5 to 6, or said Figures as modified by Figure 7 or Figure 8 of the accompanying drawings.

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COMPLETE SPECIFICATION

2 SHEETS

This drawing is a reproduction of  
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Sheet 1

FIG. 1

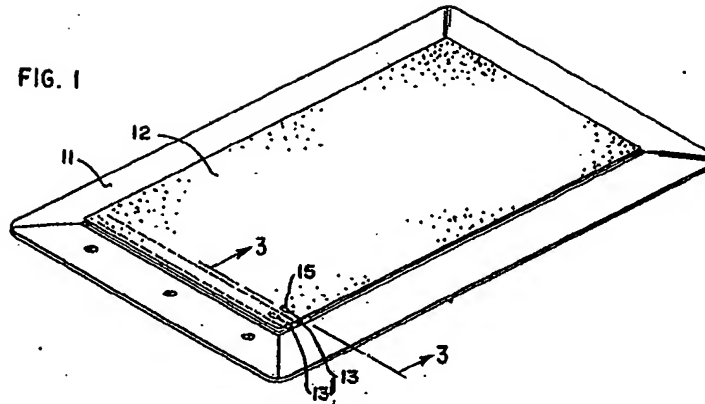


FIG. 2

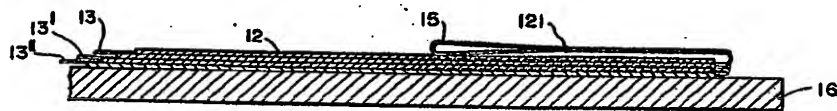
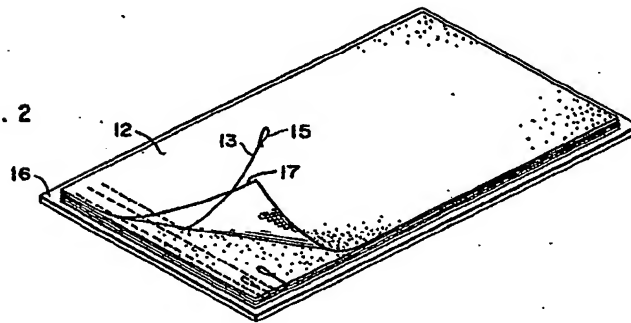
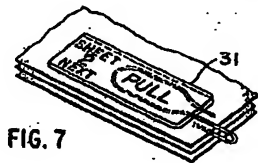
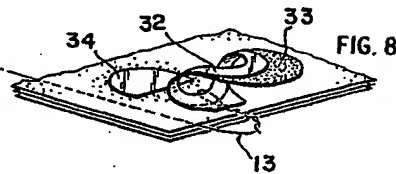
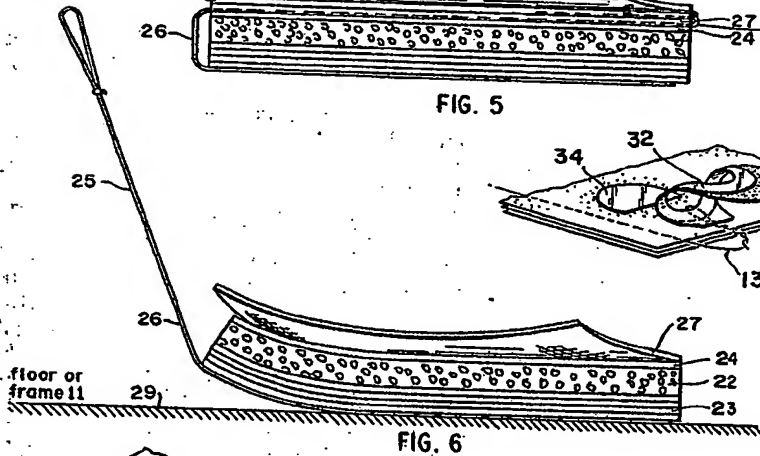
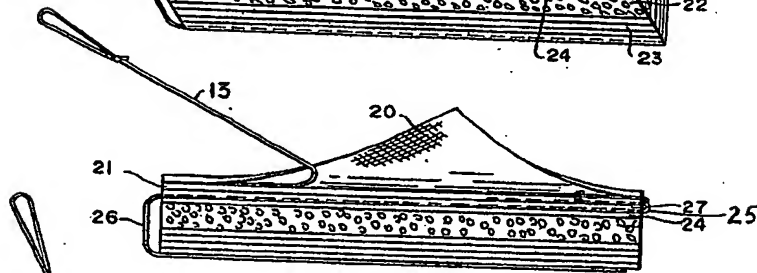
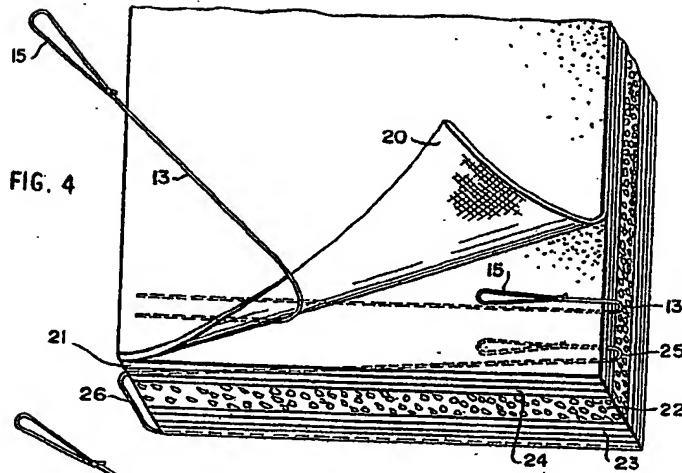


FIG. 3



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